

Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

AIR QUALITY PERMIT

Permittee Name: Aluminum Company of America
Mailing Address: 3000 State Drive, Lebanon, Pennsylvania 17042

is authorized to operate a secondary aluminum melting, refining, and casting operation

Source Name: Aluminum Company of America
Mailing Address: Junction of Kentucky Highway 271 with Ohio River
Hawesville, Kentucky 42348
Source Location: Same as above
Permit Type: Federally-Enforceable
Review Type: Conditional Major

Permit Number: F-97-023
Log Number: F022
Application
Complete Date: February 11, 1997
KYEIS ID #: 077-1580-0006
AFS Plant ID #: 21-091-000006
SIC Code: 3353

Region: Evansville / Henderson
County: Hancock

Issuance Date: March 27, 1998
Expiration Date: March 27, 2003

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SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application which was determined to be administratively and technically complete, the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto and shall become the final permit unless the U.S. EPA files an objection pursuant to Regulation 401 KAR 50:035, Section 21(3).

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in the Regulation 401 KAR 50:035, Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. However, these provisions do not shield the source from violations of the applicable requirements being established and documented through other evidence, nor does it relieve the source from its obligation to comply with the underlying emission limits or other applicable requirements being monitored.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

GROUP Requirements

06 (13) & 07 (14)

Description: Two natural gas-fired furnaces with a melting capacity of 4590 lbs/hr aluminum feedstock, each.

Construction commenced: September, 1982.

APPLICABLE REGULATIONS:

Regulation 401 KAR 59:010, New process operations

State-origin:

Regulation 401 KAR 53:010, Ambient air quality standards

1. Operating Limitations:

None

State-origin:

Salt use shall not exceed 7.60 lbs/hr, total.

2. Emission Limitations:

Visible emissions shall not equal or exceed 20% opacity. The opacity shall be determined by Reference Method 9 of Appendix A to 40 CFR 60, filed by reference in 401 KAR 59:010. Particulate emissions shall not exceed the limitations calculated from the equation found in 401 KAR 59:010, Appendix A.

$$E = 3.59 * P^{0.62}$$

where E is the rate of emission in lbs/hr and P is the process weight in tons/hr.

State-origin:

HF emission rates shall not exceed 0.24 lb HF/hour per furnace, Regulation 401 KAR 53:010, Ambient air quality standards.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

Opacity readings shall be performed by a certified visible emissions observer at least once per month during furnace operations per Method 9. See Section I. If a certified visible emissions observer is not available, qualitative observations of the visible emissions shall be made, and the existence of any visible emissions shall be considered to be over 20%.

Particulate emissions (lbs/hr)=(Monthly production rate)x(KYEIS emission factor)/(Hours of operation per month). This emission factor may be replaced a number obtained by the latest test or emission factor approved by the Division.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**4. Specific Monitoring Requirements:(continued)**

State-origin:

$$HF \text{ emissions (lbs/hr)} = \sum_{i=1}^n (SALT_n \times \% \text{ by weight } F)$$

5. Specific Record Keeping Requirements:

Records shall be maintained of the calculated monthly particulate and HF emission rates, monthly production and hours of operation of the melt furnaces. The permittee may choose to use maximum rated capacity and hours in a month in lieu of keeping the production and hours of operation of the furnaces. Records shall be maintained of the monthly Method 9 opacity readings or the qualitative reading of visible emissions from the melt furnaces. Records shall also be maintained of the last 2 opacity measurements that are in excess of the emission limits specified in this permit, including the date and time of each exceedance. The amount of each salt used shall be recorded monthly and the MSDS for each salt used shall be kept.

6. Specific Reporting Requirements:

Any exceedance of the opacity or particulate emission limits as stated in this permit shall be reported to the Division as promptly as possible per Section F (6). Following an exceedance the company shall continue to submit, for a period of at least 12 months, the monthly visible emission readings, the monthly production rates and the hours of operation within 30 days of the end each calendar month.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

08 (15)- Alpüre unit

Description:

This is where the molten aluminum is purified with chlorine and argon gases.

Construction commenced: September, 1982

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operations

1. Operating Limitations:

None

2. Emission Limitations:

Visible emissions shall not equal or exceed 20% opacity. The opacity shall be determined by Reference Method 9 of Appendix A to 40 CFR 60, filed by reference in 401 KAR 59:010. Particulate emissions shall not exceed the limitations calculated from the equation found in 401 KAR 59:010, Appendix A.

$$E = 3.59 * P^{0.62}$$

where E is the rate of emission in lbs/hr and P is the process weight rate in tons/hr.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

Opacity readings shall be performed by a certified visible emissions observer at least once per month during furnace operations as per Method 9. See Section I. If a certified visible emissions observer is not available, qualitative observations of the visible emissions shall be made, and the existence of any visible emissions shall be considered to be over 20%.

Particulate emissions=(Monthly production rate)x(KYEIS emission factor)/(Hours of operation per month). This emission factor may be replaced a number obtained by the latest test or emission factor approved by the Division.

5. Specific Record keeping Requirements:

Records shall also be maintained of the last 2 opacity measurements that are in excess of the emission limits specified in this permit, including the date and time of each exceedance. The chlorine use shall be recorded monthly. Records shall be maintained of the monthly production and hours of operation of the alpüre unit. Records shall be maintained of the Method 9 opacity readings or the qualitative reading of visible emissions from the alpüre unit.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

Any exceedance of the opacity or particulate emission limits as stated in this permit shall be reported to the Division as promptly as possible per Section F (6). Following an exceedance the company shall continue to submit, for a period of at least 12 months, the monthly visible emission readings, the monthly production rates and the hours of operation within 30 days of the end each calendar month.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP Requirements:

06 (13), 07 (14) & 08 (15)

APPLICABLE REGULATIONS:

401 KAR 63:060, Hazardous air pollutants and source categories

1. **Operating Limitations:**

None

2. **Emission Limitations:**

HCl emissions shall not exceed 9.0 tons for any consecutive 12 months.

3. **Testing Requirements:**

Not Applicable

4. **Specific Monitoring Requirements:**

The chlorine use in the Alpure unit shall be monitored to ensure compliance with the emission limitation listed above. HCl emissions from the furnaces and Alpure unit shall be calculated as follows:

$$\text{HCl emissions (TPY)} = \text{aluminum fed to furnaces (TPY)} \times 0.2129 \text{ (lbs/ton)} / 2000 +$$
$$\# \text{ of Cl}_2 \text{ cylinders} \times 150 \text{ (lbs/cylinder)} \times (36.45 \text{ lbs HCl} / 35.45 \text{ lbs Cl}_2) \times (\text{ton} / 2000 \text{ lbs}).$$

Clean scrap aluminum shall be oil and dirt free, and shall not contain more than 5% by weight of coated scrap. For the purposes of this equation, clean bulk materials may be omitted when no Cl₂ is added to the furnace atmosphere or the material.

5. **Specific Record Keeping Requirements:**

The chlorine use shall be recorded monthly. The calculated 12 month rolling average for the HCl emissions shall be recorded monthly.

6. **Specific Reporting Requirements:**

Any exceedance of the HCl limits as stated in this permit shall be reported to the Division as promptly as possible per Section F (6). Following an exceedance the company shall continue to submit, for a period of at least 12 months, the monthly HCl emission readings, the monthly production rates and the hours of operation within 30 days of the end each calendar month.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 50:035, Section 5(4).

<u>Description</u>	<u>Regulation</u>
1. Water Treatment Chemicals	
2. Furnace Refractory Rebuilds	
3. Emergency Generator	
4. Argon Tank	
5. Skim and Dross Handling	

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. Particulate and visible emissions, as measured by methods referenced in 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.
2. Compliance with annual emissions and processing limitations imposed pursuant to 401 KAR 50:035, Section 7(1)(a), and contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

SECTION E - CONTROL EQUIPMENT CONDITIONS

None

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
 - a) Date, place as defined in this permit, and time of sampling or measurements.
 - b) Analyses performance dates;
 - c) Company or entity that performed analyses;
 - d) Analytical techniques or methods used;
 - e) Analyses results; and
 - f) Operating conditions during time of sampling or measurement;
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained at the source authorized by this permit for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

3. The permittee shall allow the Cabinet or authorized representatives to perform the following:
 - a) Enter upon the premises where a source is located or emissions-related activity is conducted, or where records are kept;
 - b) Have access to and copy, at reasonable times, any records required by the permit:
 - i) During normal office hours, and
 - ii) During periods of emergency when prompt access to records is essential to proper assessment by the Cabinet;
 - c) Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times shall include, but are not limited to the following:
 - i) During all hours of operation at the source,
 - ii) For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
 - iii) During an emergency; and
 - d) Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements. Reasonable times shall include, but are not limited to the following:
 - i) During all hours of operation at the source,
 - ii) For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
 - iii) During an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be reported to the Division's Owensboro Regional Office no later than the six-month anniversary date of this permit and every six months thereafter during the life of this permit, unless otherwise stated in this permit. Data from the continuous emission and opacity monitors shall be reported to the Director in accordance with the requirements of Regulation 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to Section 6(1) of Regulation 401 KAR 50:035, Permits. All deviations from permit requirements shall be clearly identified in the reports.
6. In accordance with Regulation 401 KAR 50:055, Section 1, the owner or operator shall notify the Division for Air Quality's Owensboro Regional Office by telephone as promptly as possible any deviation from permit requirements, including those due to malfunctions, unplanned shutdowns, ensuing startups, or upset conditions. Pursuant to Regulation 401 KAR 50:035, Section 7(1)(e), the notification shall describe the probable cause of the deviations and corrective actions or preventive measures taken.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

7. The permittee shall certify compliance with the terms and conditions contained in this permit, annually or more frequently as specified in this permit or by the cabinet, to the Division for Air Quality's Frankfort office, the Owensboro Regional Office and the U.S. EPA in accordance with the following requirements:
 - a) Identification of each term or condition of the permit that is the basis of the certification;
 - b) The compliance status regarding each term or condition of the permit;
 - c) Whether compliance was continuous or intermittent; and
 - d) The method used for determining the compliance status for the source, currently and over the reporting period, pursuant to 401 KAR 50:035, Section 7(1)(c),(d), and (e).
 - e) Other facts the Division may require to determine the compliance status of the source; and
 - f) The certification shall be postmarked by the thirtieth (30) day following the applicable permit issuance anniversary date.
8. In accordance with Regulation 401 KAR 50:035, Section 23, the permittee shall report all information necessary to determine its subject emissions.
9. Pursuant to Section VII.3 of the policy manual of the Division for Air Quality as referenced by Regulation 401 KAR 50:016, Section 1(1), results of performance test shall be submitted to the Division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G - GENERAL CONDITIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. A noncompliance shall be (a) violation(s) of state regulation 401 KAR 50:035, Permits, Section 7(3)(d) and for federally enforceable permits is also a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act)_and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition.

SECTION G - GENERAL CONDITIONS (CONTINUED)

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause. The permit will be reopened for cause and revised accordingly under the following circumstances:
 - a) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to Regulation 401 KAR 50:035, Section 12(2)(c);
 - b) The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.;
 - c) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish to the Division, in writing, information that the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit.
5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority. The permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the source after the date a complete permit application was submitted but prior to the release of the draft permit.
6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit.
7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance.
8. Except as identified as state-origin requirements in this permit, all terms and conditions contained herein shall be enforceable by the United States Environmental Protection Agency and citizens of the United States.

SECTION G - GENERAL CONDITIONS (CONTINUED)

(a) General Compliance Requirements(continued)

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6).
10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance.
11. This permit shall not convey property rights or exclusive privileges.
12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.
13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry.
14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders.
15. Permit Shield: Except as provided in State Regulation 401 KAR 50:035, Permits, compliance by the affected facilities listed herein with the conditions of this permit shall be deemed to be compliance with all applicable requirements identified in this permit as of the date of issuance of this permit.

(b) Permit Expiration and Reapplication Requirements

This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division.

c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of Regulation 401 KAR 50:035, Section 15.

SECTION G - GENERAL CONDITIONS (CONTINUED)

(c) Permit Revisions(continued)

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority thirty (30) days in advance of the transfer.

(e) Acid Rain Program Requirements

If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

(f) Emergency Provisions

1. An emergency shall constitute an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or other relevant evidence that:
 - i) An emergency occurred and the permittee can identify the cause of the emergency;
 - ii) The permitted facility was at the time being properly operated;
 - iii) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and,
 - iv) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency. The notice shall meet the requirements of 401 KAR 50:035, Permits, Section 7(1)(e), and include a description of the emergency, steps taken to mitigate emissions, and the corrective actions taken. This requirement does not relieve the source of any other local, state or federal notification requirements.
2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement.
3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof.

SECTION G - GENERAL CONDITIONS (CONTINUED)

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall:
 - a. Submit a Risk Management Plan to U.S.EPA, Region IV with a copy to this Division and comply with the Risk Management Program by June 21, 1999 or a later date specified by the U.S.EPA.
 - b. Submit additional relevant information if requested by the Division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166.
 - e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H - ALTERNATE OPERATING SCENARIOS

Not Applicable

SECTION I - COMPLIANCE SCHEDULE

The permittee shall comply with the requirements to observe and record the visible emissions from all affected facilities in this permit within 6 months of the date of this permit.